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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,647	01/22/2002	Ravi Prasad	10015567-1	9854

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EXAMINER

RIDLEY, BASIA ANNA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/056,647	Applicant(s) PRASAD ET AL.	
	Examiner Basia Ridley <i>BR</i>	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 10,11,16,17 and 36-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,12-15,18 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>012202,082903,042704, 101504</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species a-2 and b-1 and c-1, claims 1-9, 12-15 and 18-35 in the reply filed on 14 October 2004 is acknowledged. Claims 10-11 and 16-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Specification

2. The use of the trademarks has been noted in this application (see pages 8 and 10). It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3. The disclosure is objected to because of the following informalities:

- P4/L12-13, "with fuel cartridges do not have" should be replaced with --with fuel cartridges which do not have--;
- "bi-product" used throughout the specification (see e.g. P4/L30-32) should be replaced with --byproduct--;
- the slurry of coal in water is heated (9) to thereby vaporize at least a part of the water and fed to the gasification reactor (C3/L69-C4/4); and

Appropriate correction is required.

Drawings

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4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "a storage area 124" (see P6/L28). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 5-6, 13, 21 and 25 are objected to because of the following informalities:

- recitation of "bi-product" in claims 5, 13, 21 and 25 should be replaced with --byproduct--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 31-35 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for use of disclosed cartridge with a first reactant stored in a fuel reservoir and a catalyst stored in a reaction chamber, does not reasonably

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provide enablement for cartridge further comprising a second reactant stored in the reaction chamber. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. In view of applicant's disclosure that hydrogen is generated by contact of stable aqueous solution of sodium borohydride (first reactant) with one or more transition metal catalyst (see P5/L12-21) it is not clear what other second reactant is required for production of hydrogen.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-8, 12-14 and 18-30 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by Hockaday et al. (US 2001/0045364).

Regarding claims 1-8, 12-14 and 18-21, Hockaday et al., in Fig. 9, discloses a fuel reservoir (7, 39), a reaction chamber (122), an open region (111) defined as a tubular member, and a passive structure within the open region (110, 112), wherein the fuel containing substance within the fuel reservoir comprises sodium borohydride (abstract), wherein the reaction chamber comprises an inlet operably connected to the fuel reservoir and a gas outlet (Fig. 9). The cartridge further comprising a byproduct reservoir (7, 39)

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including a liquid inlet (Fig. 9) and a substantially gas permeable / liquid impermeable structure (106) separating the reaction chamber liquid outlet from the reaction chamber gas outlet. Wherein the passive structure creates capillary forces that resist fluid flow. The reaction chamber further comprising catalyst (Fig. 9).

Regarding claims 22-30, Hockaday et al., in Fig. 3, discloses a fuel reservoir (7, 39), a reaction chamber (Fig. 3) including a catalyst, wherein the fuel containing substance within the fuel reservoir comprises sodium borohydride (abstract), wherein the reaction chamber comprises an inlet operably connected to the fuel reservoir and a gas outlet (Fig. 3). The cartridge further comprising a byproduct reservoir (7, 39) including a liquid inlet operably connected to a liquid outlet of the reaction chamber (Fig. 3). The reaction chamber comprises an external housing (38) and a substantially gas permeable / liquid impermeable structure (31-32) forming a structure in which catalyst is at least partially located, wherein a space (36) is defined between the inner surface of the reaction chamber external housing and the outer surface of the enclosed substantially gas permeable / liquid impermeable structure the is in communication with the reaction chamber gas outlet (37).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday et al. (US 2001/0045364) in view of Yamada et al. (USP 5,432,023).

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Regarding claims 9 and 15 Hockaday et al. discloses all of the claim limitations as set forth above, but the reference does not explicitly disclose the passive structure comprising a porous structure.

Yamada et al. (abstract) teaches an advantageous porous structure to control the flow of fuel. It would have been obvious to one having ordinary skill in the art at the time of the invention to use the porous structures of Yamada et al. in the open region of the cartridge of Hockaday et al. for the purpose of controlling the flow of fuel.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

13. In view of the foregoing, none of the claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Basia Ridley
Examiner
Art Unit 1764

BR
January 10, 2005